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VALVULAR HEART DISEASE

PREDICTORS OF POOR RENAL FUNCTION AFTER CARDIAC SURGERY: ROLE OF ACE INHIBITORS

ACC Poster Contributions
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Session Title: Adult Cardiothoracic : Predictors of Outcome
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Background: Acute renal failure (ARF) after cardiac surgery is associated with adverse outcomes and increased mortality. We performed this study to identify the factors independently associated with post-operative renal failure, particularly pre-operative ACE inhibitors use.

Methods: We conducted a retrospective review of 325 consecutive patients who underwent cardiac surgery in 18-months period between January 2009 and April 2010. Data were analyzed to find independent predictors of ARF post-operatively.

Results: Our sample had a mean age of 66 (+11) with 26% women. In the univariate model, Multiple variables showed association with the development of ARF. These were age (r=0.31, p=<0.001), previous coronary intervention (r=0.15, p=0.01), pre-operative creatinine (r=0.15, p=0.007), pre-operative cardiac arrhythmias (r=0.16, p=0.008), cardiogenic shock (r=0.13, p=0.04), ACE inhibitors (r=0.18, p=0.001) (Figure 1), steroids use (r=0.13, p=0.02), perfusion time (r=0.17, p=0.007), worsening New York Heart Association (NYHA) Class (r=0.23, p=0.02), and lower hematocrit (r=0.15, p=0.006). A multivariate analysis was performed using multiple regression. Variables showing independent association were age {Odd's ratio (OR) 1.06, p=<0.001}, hematocrit (OR 0.94, p=0.05), perfusion time (OR 1.01, p=0.01), and ACE inhibitors (OR 2.71, p=0.005).

Conclusions: Age, lower hematocrit, perfusion time, and ACE inhibitors are independently associated with post-operative acute renal failure.